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Short report : Circuit for high temperature, etc.

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As shown in Fig. 1, if input is high voltage oscillation, output is high voltage current. From that, by heater as shown in Fig. 1, high temperature is gained. The author names this circuit "T-circit". The heater is consist of complex coil of resistance as shown in Fig.1.

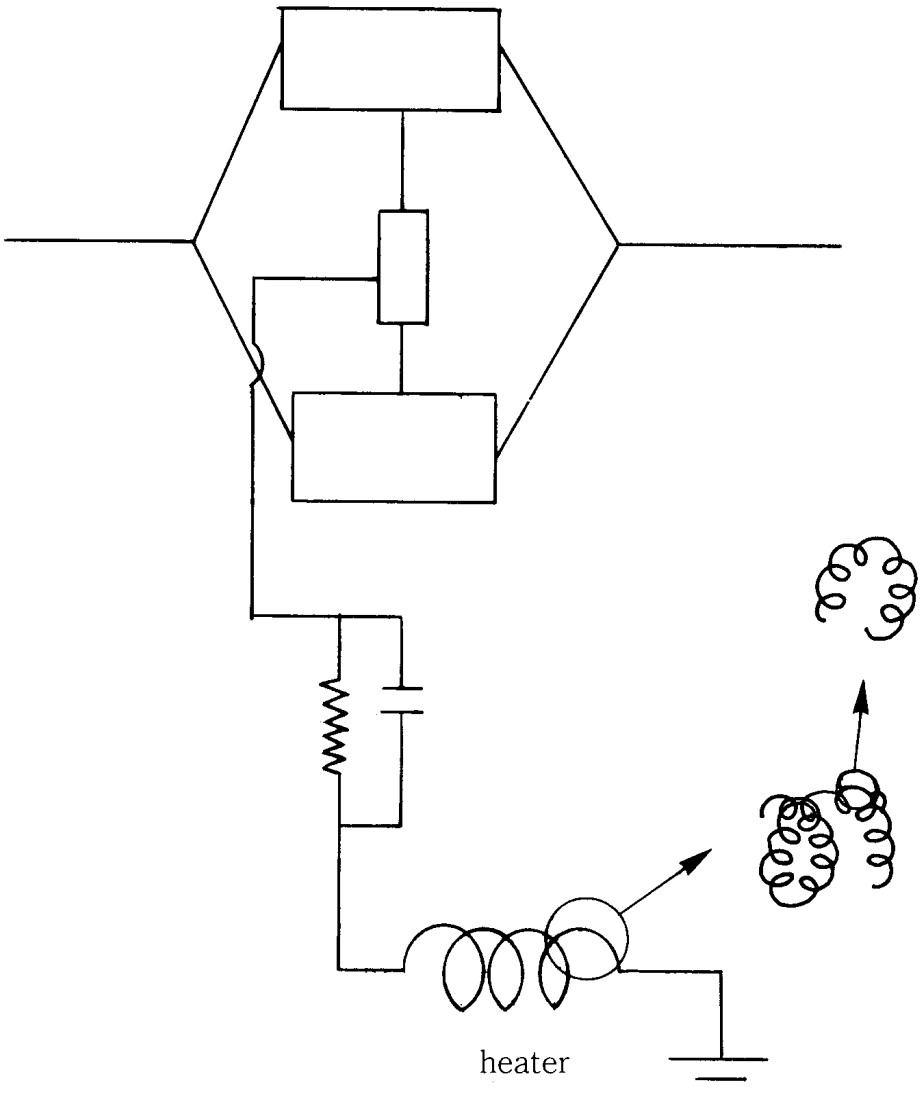

Fig.1. Circuit for high temperature

The sunspot is consist of dark part and semi-dark part. By observation by astronomical telescope, the pattern of them has no relationship to the size of the sun spot. Generaly discussd, development of the sunspot may be proportional to development of size of it. From above, the pattern of dark part and semi-dark part is independent to development of the sunspot.

By observation by a microscope for metal, the lava in Hawaii shows distribution of metal. This lava is basaltic. This may suggest that this lava has relationship to mantle.

The sunspot shows accurate boundary in spite of gas phase. As discussed in another paper written by the author, it shows that moving velocity is much greater than dispersing velocity. From that, very strong flow exists on the sunspot.

The Jupiter has very rapid self rotation. The colioris force is very large. It suggests thet the belt of the Jupiter concerns to the coliolis force. The belt of the Jupiter is consist of many eddys. By the coliolis force, if moving velocity is relatively large, the belt is formed. If moving velocity is relatively small or vertical, the eddy is formed. The great red spot may show the vertical movement of large scale.

By the vertical flow, if it's flow is upward, vertical heatflow exists. From that, following discussion is made. $q = \mathrm{grad}\phi$ q : heat flow upward (one direction)

ϕ : thermal potential From this equation, $\mathrm{div}\ q = \triangle\phi$

From this equation, divergence of heat exists. From above discussion, energy source is gained in the place where vertical uoward

flow exists.

One technique for tall building

As shown in Fig. 2, the bundle of iron tubes is positioned in the center of the building. The building is fastened by this bundle of iron tubes. At the same time this bundle of iron tubes is fastened by the builing. Thus the effect of earthquake is eliminated and very tall building may be possible.

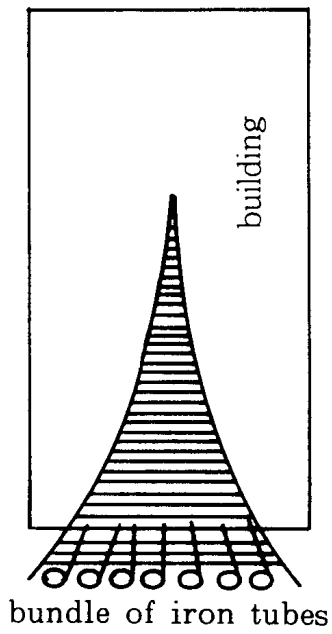

Fig.2. Building with the center part of the bundle of iron tubes

The interior of the Sun

As the author already discussd in another paper, following discussion is possible. Thermal potential ϕ is defined as follows. $q = \mathrm{grad}\phi$ q : heat flow

Coordinate is taken in one direction i.e q varys in only x direction. x is depth. In this case potential ϕ exists. Supposition is as follows. ϕ increases as depth increases and $\frac{\partial^n \phi}{\partial x^n} < \frac{\partial^{n-1} \phi}{\partial x^{n-1}}$

One equation satisfying the supposition is as follows. $\phi = ce^{nx}$

$n < 1$

Many layers is supposed in the interior of the Sun. The equation is as follows. $0 \leqq x < x_1$, $\phi = ce^{n_1 x}$, $x_1 \leqq x \leq x_2$, $\phi = ce^{n_2 x}$, $\cdots\cdots x_{m-1} < x < x_m$, $\phi = ce^{n_m x}$, $\cdots\cdots$ At the same time, by dividing to many layers, the above equation is approximately correct.

$$\phi = ce^{n_m x} \quad \therefore q = gvad\phi = n_m \phi \quad \text{div } q = n_m^2 \phi$$

Heat flow q is consist of radiation q′, convection q″, and divergence of q as discussed above. $q = q' + q'' + \text{div } q.n$ $\text{rot } q = \text{rot } q' + \text{rot } q'' + \text{div } q.\text{rot } n$ "n" has quantity of 1 and it direction is direction of heat flow. q is heat flow by radiation, so $\text{rot } q' = o$ Convection is mass transfer and it occurs from pressure differnce, so $\text{rot } q'' = o$

$$\therefore \text{rot } q = \text{rot } n \cdot \text{div } q \cdots ①$$

From this equation, convection of heat exists in the interior of the Sun. The author names this convection "heat convection".

The surface of the Venus

The supposition is follows. Heatflow q is discontinuous at the surface of the Venus, so the thermal potential ϕ which is defined by the equation $q = gvad\phi$ is discontinuous. At the surface of the Venus, thermal potential of the air is ϕ' and the thermal potential of the crust is ϕ $\phi - \phi' = \phi''$ $c = grad\phi''$ c is heat flow of the crust only.

$$\therefore \text{grad } (\phi - \phi') = c \quad \therefore \triangle (\phi - \phi') = \text{div} c \cdots ②$$

From this equation, divergence of heat exists in the crust. This

means that energy source exists in the crust of the Venus.